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**METHOD AND SYSTEM FOR BUILDING A FAMILY TREE**

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## **METHOD AND SYSTEM FOR BUILDING A FAMILY TREE**

### **FIELD OF THE INVENTION**

The present invention relates to a method system for automatically building and/or accessing a family tree.

### **5 BACKGROUND OF THE INVENTION**

Today when an individual wishes to construct his or her family tree he or she will often talk to as many relatives as they can reasonably contact and get their best recollections of the family relationships. From this information, they will construct the best possible family tree from the available information. A  
10 family tree constructed in this manner may often be incomplete since it relies on the memories of those currently living. As such, it may only cover a few past generations unless a tree had previously been constructed. Alternatively, there are other sources of information including government and church records. The Mormon Church, for example, maintains an extensive database of birth and death  
15 records. These sources, however, may be difficult and time-consuming to review and may involve extensive communications to obtain the relevant data. Also, in many cases, an individual may need to know the place of birth or death in order to search the relevant database. Once the relevant information has been obtained, the person will need to construct the family tree, though there is commercial software  
20 to do this, such as Family Tree Maker, which is currently available from The Learning Company. Another alternative is to pay a third party provider to construct a family tree. This can be expensive and may also contain inaccuracies. Finally, in all of these cases, the data available for the family tree is likely to only consist of the names, dates and places of birth and death, and relationships of  
25 family members. While this data will be sufficient to create a classical family tree, it will lack such information as pictures, news clippings, voice or video clips, music, etc. that could enrich the experience of reviewing the family tree.

Thus, there is a need to provide a simple, effective, and inexpensive way to gather information to construct a family tree and to broadly  
30 distribute the final result. Additionally, when such information as pictures, sound clips, etc. are added to the family tree, the final result becomes much more valuable and pleasurable for those reviewing the tree.

The present invention seeks to solve these problems by utilizing a communication network, such as the Internet, to allow people to search a wide variety of servers linked to the network, for information that can be used to construct the family tree.

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## SUMMARY OF THE INVENTION

In accordance with one aspect of the present invention there is provided a method for gathering information relevant to the creation of a family tree, organizing the information, and displaying it in the form of a family tree, comprising the steps of searching multiple databases through a network and  
10 scanning the database for relevant information, reviewing the information according to a set of algorithms for relationships to other individuals entered into the local database and assessing the probability that the newly identified individual is related to the original individual, providing the information, along with the probability assessment to the user for acceptance or rejection and  
15 updating the database upon acceptance of the user.

In accordance with another aspect of the present invention there is provided a method for gathering information relevant to the creation of a family tree, organizing the information, and displaying it in the form of a family tree, comprising the steps of searching multiple databases through a network and  
20 scanning the database for relevant information, reviewing the information according to a set of algorithms for relationships to other individuals entered into the local database and assessing the probability that the newly identified individual is related to the original individual, providing the information, along with the probability assessment to the user for acceptance or rejection and  
25 updating the database upon acceptance of the user.

In accordance with still another aspect of the present invention there is provided method for automatically compiling a family tree, comprising the steps of obtaining specified data about a first individual, obtaining the specified data about a second individual, automatically comparing the specified  
30 data for the first and second individuals so as to determine if there exists matching data for establishing a family connection and establishing a link when the family connection is found to exist between the first and second individual.

In accordance with yet still another aspect of the present invention there is provided a software product for automatically compiling a family tree such that when loaded onto a computer it would cause the computer to do the following steps of obtaining specified data about a first individual, obtaining the  
5 specified data about a second individual, automatically comparing the specified data for the first and second individuals so as to determine if there exists matching data for establishing a family connection and establishing a link when the family connection is found to exist between the first and second individual.

In accordance with another aspect of the present invention there is  
10 provided a computer software product for gathering information relevant to the creation of a family tree such that when loaded on to a computer will cause the computer to do the steps of searching multiple databases through a network and scanning the database for relevant information, reviewing the information according to a set of algorithms for relationships to other individuals entered into  
15 the local database and assessing the probability that the newly identified individual is related to the original individual, providing the information, along with the probability assessment to the user for acceptance or rejection and updating the database upon acceptance of the user.

These and other aspects, objects, features and advantages of the  
20 present invention will be more clearly understood and appreciated from a review of the following detailed description of the preferred embodiments and appended claims, and by reference to the accompanying drawings.

### **BRIEF DESCRIPTION OF THE DRAWINGS**

In the detailed description of the preferred embodiments of the  
25 invention presented below, reference is made to the accompanying drawings in which:

Fig. 1 illustrates a system made in accordance to the present invention for gathering and distributing information useful in constructing a family tree;

30 Fig. 2 shows a main menu screen for the family tree software;

Fig. 3 illustrates a screen for entering family tree information made in accordance with the present invention;

Fig. 4 illustrates a screen wherein the software returns information to the user regarding possible family members;

Fig. 5 illustrates in a Kiosk, another embodiment of the present invention; and

Fig. 6 is a flow chart describing one method of operation of the  
5 present invention; and

Fig. 7 is a flow chart describing one method of operation of the present invention.

### DETAILED DESCRIPTION OF THE INVENTION

Referring to Fig. 1, there is illustrated a system 10 made in  
10 accordance to the present invention for gathering and distributing information useful in constructing a family tree. In the embodiment illustrated, system 10 includes a communication network 12 that is freely accessible by individuals. In the particular embodiment illustrated, the communication network 12 is the Internet. However, it can be any other appropriate communication network that  
15 may be utilized. System 10 includes a personal computer 44 with a data-entry system 46 located at an individual's home 40. Typically, the data-entry system 46 is a keyboard, but it may include a microphone, digital camera, smart card, computer mouse or other computer data entry device. The computer is connected to the network 12 through an Internet Service Provider 41. Thus, the individual at  
20 home may use his or her computer to access information that might be relevant to constructing a family tree and is contained on various web pages/sites 25, 27 located on other servers 26, 28 that are connected to the Internet 12. Similarly, the individual may also be able to use a personal computer 45 which is similarly equipped with a data-entry system 47 and is connected to the network 12 through  
25 an Internet Service Provider 43, and is located at the individual's place of employment 42. Also, an individual may use a computer 18 at a funeral home 14, or any other business establishment, to access servers 26, 28 that may contain the relevant information, so long as the computer includes a suitable data entry device 20 and is connected to the Internet 12 through an appropriate Internet Service  
30 Provider 16.

In accordance with the present invention, an individual wishing to construct a family tree, hereinafter called the user, first launches software for

constructing the family tree on his personal computer 44, located at home. For the purposes of this description, it will be assumed that the entire transaction occurs from the individual's home, although, the invention covers the operation of the system and the software from any location or any type computer or other access device. Once the software has been launched, the user selects the input display screen 140, shown in Figs. 2, 3 and 4 and decides what action he would like to take. The options include creating a new family tree, viewing or editing an existing family tree, or deleting an existing family tree, selection icons 142, 144, and 146, respectively. When the individual chooses to create a new family tree, the software switches to a display screen 150 as illustrated in Figs. 3. At that point, the user begins to enter as much information he or she knows about the individual whose family tree he wishes to create or whom he'd like to include on a family tree focused on another individual. This information could include such items as the person's name, relationship to the individual, date and place of birth, date and place of death (if deceased), places the person has lived and the dates he or she lived there, names of parents, or any other information useful in identifying the individual. The individual can enter data on as many individuals as desired. The accuracy of the family tree that is created will increase as more information is entered. Once the information has been entered, the user connects to the Internet 12 and then selects the "Search" button 160 on the main menu 170 of the software as shown in Fig. 2. Typically selecting of the desired button occurs through the use of a computer mouse, however any appropriate technique may be use. Triggered by the search button 160, the software triggers a search engine on a remote server/website and begins to search the Internet 12 for names of people whose identifier information matches or closely matches that of the person about whom the family tree is being made. This information may be contained on any of a number of servers 26, 28 connected to the Internet 12. After searching the Internet 12 and finding all the relevant information, the search engine will return a list of candidate names, i.e. those likely to be related to the person in question, along with a probability assessment that the identified person is indeed related to the person, as shown in Fig. 4. It will also establish its "best guess" of the relationship of the newly identified persons to the individual. An algorithm

determines the assigned probability such that the probability increases proportionately to the number of data item matches, and is therefore dependent upon the amount of information entered. The user then reviews the list and selects a box next to each of the persons that he/she believes is related to the individual.

- 5 The user also confirms or corrects the relationship of the newly identified persons to the individual. Finally, the user can enter additional information that he or she may know about the newly identified person. The user, by selecting the "Update" button 172, relaunched the search engine so that it can now go out to the World Wide Web to find information about those people who may related to the newly
- 10 identified persons and returns that information to the user. The user cycles through this process as many times as he/she wants to depending on how many generations he/she wants to include on the family tree. Once the family tree has been created, the user has a number of options including: saving the family tree as a file on a hard drive, floppy disk, or other storage media, e-mailing the file
- 15 containing the family tree to another person, or printing the family tree in any desired format on a personal home printer 49. The user can also forward the file containing the family tree to a third party service provider 50, such as Print @ Kodak, for production of high quality prints, compact disks, or any other type of rendering of the family tree that the user might request. It is also possible to print,
- 20 at home or through a third party provider, any or all of the various images that may be contained in the family tree. For example, in building the family tree, an individual may learn of a distant cousin that was previously unknown to them. As the system and the various worldwide created the tree, someone may have input an image of that cousin. The system enables the individual to obtain a print, CD,
- 25 or other rendering of that image.

- Referring now to Fig. 5, there is illustrated another embodiment of the present invention that utilizes a Kiosk 60. The Kiosk 60 contains software allowing a family member, friend, or other person to view the family tree and/or enter information at a third party location, such as a funeral home, a hospital, or
- 30 church. In the case of the funeral home 14, visitors may be asked to enter information about themselves or other relatives of the deceased, to begin the process of creating the database necessary to create the family tree. The Kiosk 60

can be configured to prepare a print or a CD (not shown) of the family tree and accept a credit card for payment. The Kiosk 60 is provided with appropriate input controls allowing access to the Internet 12 and to the web 25. The Kiosk 60 also includes a display screen 62, a data entry mechanism, such as a keyboard 64 for data entry by the user, and a card slot 66 having an associated reader for reading of the information on the access card 22. This Kiosk 60 can be located at a remote site placed at a business establishment such as the funeral home 14. However, it is to be understood that the Kiosk 60 can be of any commercial type and placed in any appropriate location. The Kiosk 60 having an appropriate payment mechanism 68 is capable of receiving payments for any goods and/or services. In the particular embodiment illustrated, the Kiosk 60, as shown in Fig. 5, has the capability of providing copies of text and/or images to the user. In another option, the Kiosk 60 is equipped with the appropriate devices for producing CDs, tapes, and other recordings on which images, text, sound and other data are contained. In such cases an output delivery device 70 is provided for the delivering of the requested product to the user of the Kiosk 60. Of course other input or output devices 72, 74 may be provided as desired.

In addition to the data shown on the screen diagram in Fig. 3, users may also enter other types of information which may include pictures, sound clips, video clips, or any other type of information that would be desirable to view with the family tree.

The present invention also provides for the data about an individual or family to be partitioned into a number of different sections of a database. These can include separate sections for verified and non-verified data, verified data being that can be substantiated through official records, or other documentation. Such other documentation may include, for example, images, audio clips, or fingerprints that may be confirmed to be a specific person through the use of image comparison algorithms, audio waveform analysis, or fingerprint matching algorithms, respectively. Additionally, access to the various sections of a database may be restricted. For example, a user might choose to provide unlimited access to information about deceased individuals, while restricting access to information about living individuals. Another way the user can partition



the data is to keep restricted information on his own personal computer, while storing unrestricted data on a server connected to the Internet.

The present invention also provides for a number of ways to pay for and otherwise derive value from the family tree application. These may include an annual maintenance fee paid to the provider of the service, a subscription model wherein the user receives a number of prints or CD's in return for payment of the subscription, or banner advertising. There could also be embodiments wherein a third party, e.g. a funeral home, camera store or other business establishment participates in the income generated by the system in return for Kiosk placement.

To better understand the present invention, a brief description of this operation will now be discussed in greater detail.

Referring to Fig. 6, a flow chart describes one method of operation of the present invention. An individual wishing to construct a family tree first launches the software, step 80 on a personal computer. Once the software has been launched and the main page appears, the user selects "Create a new family tree", step 82. This causes the software to bring forth a set of screens onto which the user may enter information about the individual whose tree is being created, step 84. Once the user has entered as much information about the individual as is available, he or she clicks on the "Search" button, step 86. This causes the software to connect to the Internet and, through the use of its search engine, look for other references to the individual and his or her family. The software will return information step 88 about people who, according to the algorithms in the software, are likely to be related to the individual. At step 90 the individual is presented with the opportunity to accept the candidate relatives. The user then can decide step 106 whether or not to accept the recommendations of the software. If the user decides to accept step 108 the software will update the database step 112 with the new information linking each of the accepted candidates to the individual in the family tree. If the user opts to reject the proposed candidates step 110, the database will not be updated and the process will end. This process continues until the user has accepted or rejected all of the recently returned candidates. Once the user has made decisions on all the recently proposed candidates, he or

she has the option step 96 of rerunning the search step 114 based on the newly added information. This process continues until the user decides to stop at which point the database is closed step 98 and the session ends step 100.

- Once the family tree has been created, the software that maintains
- 5 the family tree can set up to review on a periodic basis, various data bases so that related individuals can be automatically added to the tree and provide this information to all of the living individuals on the family tree or designated individuals. This may be done for a fee paid at the time of creation of the family tree or for a fee upon acceptance of the new information to be added to the
- 10 existing family tree.

It is possible, under the present invention, for an individual to choose only to view a listing of his/her ancestors without actually creating a family tree. Similarly, it is possible to view the family tree without printing it.

- It is to be understood that various modifications and changes may
- 15 be made without departing from the present invention, the present invention being defined by the following claims.

**PARTS LIST**

10	System
12	Network/Internet
14	Funeral home
16	ISP/server
18	Personal computer/server
20	Data entry device
25	Web pages/sites
26	Server
27	Web pages/sites
28	Server
40	Home
41	Internet service providers
44	Personal computer/server
45	Personal computer/server
46	Data entry system
47	Data entry system
49	Personal printer
50	Third party service provider
60	Kiosk
62	display screen
64	keyboard
66	card slot
68	payment mechanism
70	output delivery device
72	input/output devices
74	input/output devices
80	Step
82	Step
84	Step
86	Step
88	Step

90	Step
96	Step
98	Step
100	Step
106	Step
108	Step
110	Step
112	Step
114	Step
140	Input display screen
142	Icon
144	Icon
146	Icon
150	Display screen
160	Button
170	Main menu
172	Button